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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/506,504

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Sanghee Kim

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EXAMINER

LE, MICHAEL

ART UNIT

PAPER NUMBER

2163

MAIL DATE

DELIVERY MODE

09/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/506,504

Applicant(s)

KIM ET AL.

Examiner

Michael Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 0207.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 22, 2007 has been entered.

Summary and Status of Claims

1. This Office Action is in response to Applicant's reply filed June 22, 2007.
2. Claims 1-3, 5, 6, 8 and 9 are pending.
3. Claims 1-3, 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yimam, Dawit ("Expert Finding Systems for Organizations: Domain Analysis and the DEMOIR Approach", 2000) of record, in view of Liddy et al. (US Patent 5,963,940) of record, further in view of Applicant Admitted Prior Art (AAPA) on page 8 of the Specification.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

5. Claim 3 is objected to because of the following informalities:
6. Claim 3, line 8, "it" has to be changed to --its--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. Claims 1-3, 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yimam, Dawit ("Expert Finding Systems for Organizations: Domain Analysis and the DEMOIR Approach", 2000) of record, hereinafter "Yimam", in view of Liddy et al. (US Patent 5,963,940) of record, hereinafter "Liddy", further in view of Applicant Admitted Prior Art (AAPA) on page 8 of the Specification.

8. In regards to **claim 1**, Yimam discloses a method for ranking creators of a set of documents in order to their expertise in a subject (Yimam: Table 1; Pg. 10, para. 7, lines 2-4) including the steps of:

- a. from the set of documents, selecting documents that refer to the subject to create a subject related subset of documents (Yimam: Table 1; pg. 10, para. 2);
- b. selecting extracts from the subset of documents that refer to the subject (Yimam: pg. 10, para. 3;); and
- c. using the analysis to rank the creators (Yimam: page 10, para. 7, lines 2-4).

9. Yimam does not expressly disclose analyzing the linguistic structure of the extracts by isolating verbs in the extracts to create a set of verbs for classification and classifying each isolated verb in the set of verbs according to a predetermined hierarchy.

10. Liddy discloses a natural language processing (NLP) technique that processes a subset of documents (Liddy: col. 4, lines 43-48, 59-67; col. 5, lines 1-3) and analyzes the linguistic structure of the documents (Liddy: col. 9, lines 32-35, 44-50; col. 13, lines 4-9) isolating words (verbs) (Liddy: col. 12, lines 30-35, 47-49, 64-67; col. 13, lines 1-4).

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11. AAPA discloses Speech Act Theory (SAT), which proposes “that communication involves speaker’s expression of an attitude (i.e. an illocutionary act) towards the contents of the communication.” AAPA at 8, lines 9-10. AAPA further discloses that defined hierarchies of verbs and categories of illocutionary verbs are provided by SAT. AAPA at 8, lines 22-27.

12. Yimam, Liddy and AAPA are analogous art because they are from the same field of endeavor of processing documents and extracting terms.

13. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of Yimam by adding the steps of analyzing the linguistic structure of the extracts by isolating verbs in the extracts to create a set of verbs for classification, taught by Liddy, and classifying each isolated verb in the set of verbs according to a predetermined hierarchy, as taught by AAPA.

14. The motivation for doing so would have been because Yimam describes expert finding to include the ability to interpret concept to document relations, which suggests the need for techniques to extract and analyze documents (Yimam: pg. 13, section (3), lines 2-4). It is well known in the art to use natural language processing to process documents and analyze the linguistic structure of the documents and interpreting them and because using the Speech Act Theory for classifying verbs is known in the art of Natural Language Processing.

15. In regards to **claim 2**, Yimam and Liddy disclose the limitations that coincide with the limitations of claim 1 as addressed above.

16. Yimam and Liddy do not expressly disclose the method for ranking creators of a set of documents in order of their expertise in a subject further including the steps of :

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- a. creating the predetermined hierarchy by mapping isolated verbs to an illocutionary verb in a predefined set of illocutionary verbs and;
- b. classifying the mapped isolated verbs according to the Speech Act Theory category of the corresponding illocutionary verb.

17. AAPA discloses Speech Act Theory (SAT), which proposes “that communication involves speaker’s expression of an attitude (i.e. an illocutionary act) towards the contents of the communication.” AAPA at 8, lines 9-10. AAPA further discloses that defined hierarchies of verbs and categories of illocutionary verbs are provided by SAT. AAPA at 8, lines 22-27.

18. Yimam, Liddy and AAPA are analogous art because they are directed to the same field of endeavor of processing documents and language.

19. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined method of Yimam and Liddy by adding the steps of creating the predetermined hierarchy by mapping isolated verbs to an illocutionary verb in a predefined set of illocutionary verbs and classifying the mapped isolated verbs according to the Speech Act Theory category of the corresponding illocutionary verb, as taught by AAPA.

20. The motivation for doing so would have been because using the Speech Act Theory for classifying verbs is known in the art of Natural Language Processing.

21. In regards to **claim 3**, Yimam and AAPA do not expressly disclose the method for ranking creators of a set of documents according to claim 2 including the further step of:

- a. filtering isolated verbs not having a predefined illocutionary verb and thus not successfully mapped to the set of illocutionary verbs;

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- b. checking for synonyms of the unmapped isolated verbs, that have a predefined illocutionary verb; and
- c. classifying the unmapped isolated verbs according to the Speech Act Theory of the corresponding illocutionary verb of its synonym.

22. Liddy discloses looking up words in a lexical resource in order to assign the word a subject code, giving the word a meaning as determined from the context and other criteria (Liddy: col. 9, lines 51-61). Liddy also discloses using the subject codes to determine other words with the same meaning (synonyms) to disambiguate the word (Col. 9, lines 62-67; col. 10, lines 1-7, 15-18).

23. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined method of Yimam, Liddy and Paik by adding the steps of filtering isolated verbs not having a predefined illocutionary verb and thus not successfully mapped to the set of illocutionary verbs, checking for synonyms of the unmapped isolated verbs, that have a predefined illocutionary verb, as taught by Liddy, and classifying the unmapped isolated verbs according to the Speech Act Theory of the corresponding illocutionary verb of it synonym.

24. The motivation for doing so would have been because in many languages, polysemy exists and such steps are needed to properly determine the meaning of the word (Liddy: col. 9, lines 62-67; col. 10, lines 1-7). Additionally, use of the Speech Act Theory for classifying verbs is known in the art of natural language processing (Paik: pg. 116, col. 1, lines 18-20).

25. In regards to **claim 5**, one of ordinary skill in the art of Natural Language Processing (NLP) would be aware of the Speech Act Theory (SAT). The Speech Act Theory is well known

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in the art of NLP. As Applicant states in paragraph 0036 of the Specification, "SAT says that the fact that working practices are reflected through task achievement", one of ordinary skill in the art would opt to favor first person actions over third person actions. The Speech Act Theory focuses on what people "do" and not only statements that are made, but actions also performed by those statements. Thus, referencing the SAT, at the time of the invention, it would have been obvious for one of ordinary skill in the art to modify the combined method of Yimam and Liddy by adding the step of weighting extracts to favor those written in the first person over those written in the third person.

26. In regards to **claim 6**, Yimam, Liddy and Yimam disclose a method for ranking creators according to claim 1, wherein the set of documents is e-mail communications (Yimam: pg. 8, lines 5-6; Table 1).

27. **Claims 8 and 9** are substantially similar to claim 1 in the form of a computer and are rejected for the same reasons. Liddy discloses a computer programmable to perform the method of claim 1 (Liddy: col. 5, lines 20-47).

Response to Amendment

Rejection of Claim 7 under 35 U.S.C 112, First Paragraph

28. Claim 7 is cancelled rendering the rejection of claim 7 under 35 U.S.C. 112, first paragraph, moot.

Rejection of Claim 7 under 35 U.S.C 101

29. Claim 7 is cancelled rendering the rejection of claim 7 under 35 U.S.C. 101 moot.

Response to Arguments

Rejection of claims 1 and 4-9 under 35 U.S.C. 103(a)

30. Claims 4 and 7 are cancelled rendering the rejection of claims 4 and 7 under 35 U.S.C. 103(a) moot.

31. Applicant's arguments in regards to the rejections to claims 1, 5, 8 and 9 under 35 U.S.C. 103(a), have been fully considered but they are moot in view of the new grounds of rejection above. Prior art of record Yimam and Liddy are again relied upon for several features. In regards to these features, Applicant presents several arguments, which will be addressed below providing a full response.

32. First, Applicant alleges that Yimam fails to teach the specific method of the instant invention arguing that table 1 of Yimam "is no more than a general assembly of features that have been or may be used in expert finding systems" (Remarks at 10.) Applicant reasoned that table 1 does not disclose a specific expert finding system, which includes all the features in the table and that the specific combination is inferred by the Examiner, however, not specifically disclosed. The Examiner respectfully disagrees. Yimam discussed an intuitive domain model on page 8. Yimam describes the intuitive domain model as comprising a "faceted classification scheme" and that each fact is represented by a "domain factor." Yamim at 8. Yimam goes on to discuss the domain analysis of the domain factors in designing "an architecture that is flexible enough to allow incorporation of various implementations of the other domain factors." Yimam at 11. Essentially, the architecture of Yimam is a specific combination of the domain factors. Thus, Yimam discloses the three features of claim 1 as stated in the rejection.

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33. Applicant then alleges that the cited portions of Liddy are inconsistent to combine and therefore improper because the cited portions describe two different components that do not relate to each other (Remarks at 11.) The cited portions in Liddy discuss a Subject Field Coder, a Text Structurer and a Single Term Detector. Applicant alleges it is improper to combine these components. The Examiner respectfully disagrees. Figure 3 of Liddy maps out a path a document can take through the processing method. Elements 100, 140 and 130 are the aforementioned components respectively. It is clear from the drawing, that a document can go through each of the components before processing is complete. As such, a combination of the components together does not create an inconsistency because together, the components perform the specific features of claim 1 that Yimam does not expressly disclose.

34. In regards to the specific feature of classifying each isolated verb according to a predetermined hierarchy, Applicants arguments are moot in view of the new grounds of rejection set forth above.

Rejection of claims 2 and 3 under 35 U.S.C. 103(a)

35. Applicant's arguments in regards to the rejections to claims 2 and 3 under 35 U.S.C. 103(a), have been fully considered but they are moot in view of the new grounds of rejection above.

Conclusion


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36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Le whose telephone number is 571-272-7970. The examiner can normally be reached on Mon-Thurs : 9:30am-6pm, Fri: 8am-4:30pm.

37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Le
Art Unit 2163
September 4, 2007


WILSON LEE
PRIMARY EXAMINER